B 9150-1

PACIFIC 1® NORTHWEST INDUSTRIES

Seattle First National Bank
Annual Review
June 1981

Pacific Northwest Industries...

The name has a nice sound, and, periodically, basic honesty dictates that this publication pay more than lip service to it by broadening its normal, parochial, Washington State focus to encompass neighboring areas as well. But what to include? Five years ago we opted to define the region hydrologically, including essentially the U.S. portion of the Columbia River drainage basin. Subregions were then defined with similar climatic and/or physical characteristics. This seemed a sensible approach to a better understanding of patterns of economic activity within the region. Defining regions across state lines has serious drawbacks, however. Many statistics are compiled only for states. Beyond that, differing political and social complexions, tax structures, regulatory arrangements, and economic development philosophies among states may impact relative growth and industry mix.

Unabashedly, therefore, this issue redefines the region to include all of five states — Alaska, Idaho, Oregon, Montana, and Washington — which have some commonalities of resources and a common concern for sensible and balanced development of both resource-based and other industries.

- Forest industries are important throughout the region.
- Agriculture remains a key underpinning of the Montana economy and provides significant support in Idaho and major parts of Oregon and Washington as well.
- Fisheries are the most utilized renewable resource in Alaska and offer considerable potential for development in Washington and Oregon.
- Generous endowments of fossil fuels and other minerals have boosted growth in both Alaska and Montana.
- The four states in the lower 48 share an interest in development of the region's water resources, including the hydro system on the Columbia and its tributaries.
- All five states enjoy in large measure the scenic attractions basic to building tourism.

The Pacific Northwest states are also linked to varying degrees by trading relationships and shared transportation corridors. Commodities produced in inland areas increasingly move into export markets via Puget Sound and Columbia River ports. Seafoods from Alaskan waters are processed on Puget Sound as well as in the 49th state. In the future, fuels may move in quantity across the Pacific Northwest in both directions, with Montana coal outbound to the Pacific Rim, and Alaska and foreign oil headed east to refineries along the Northern Tier.

In terms of real estate, the Pacific Northwest bulks large at 27 percent of the land area of the United States (Alaska alone accounts for nearly three-fifths of the regional total, 16 percent of the national). Economically, however, the five states cast a smaller shadow, accounting for only 4 percent of national personal income and fractionally smaller shares of United States population and employment. Except in size, the group of five Pacific Northwest states is also small relative to the western United States, with less than 11 percent of the population west of the Mississippi. It has been, however, one of the fastest growing regions of the nation and, indeed, of the West. Only the more southerly Mountain States group scored more rapid expansion in population in the Seventies, with the West South Central group, which includes Texas, coming in a close third. All three of these regions contain prime areas of energy resource exploration and development.

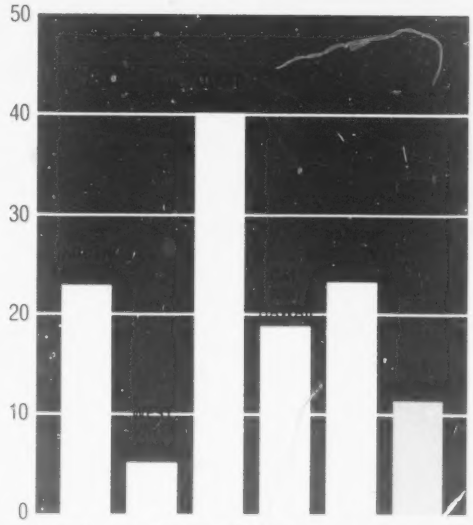
In the Pacific Northwest specifically, however, energy was only part of the success story of the Seventies. Contributing in large measure was a fleshing out of the diversified manufacturing base — with sharply increased production of electronic equipment, other types of machinery, metal products, and transportation equipment — particularly in Idaho, Oregon, and Washington. A substantial shift to higher levels of trade and service activity also merits note. In part these sectors cater to needs of resident individuals and businesses, but substantial growth in segments serving broader than regional markets, tourism and foreign trade in particular, contributed to the almost explosive gains.

Do the Eighties harbor an extension of the trends of the last decade? In terms of directions, perhaps so. The years ahead will likely see more emphasis on development of mineral resources and less expansion of industries based on living, renewable resources; an increasingly sophisticated and interrelated manufacturing complex; and increased weight on those types of trade and service activities which pull income into the region from outside. Growth for the region as a whole probably will be slower; indeed, growing pains in terms of pressures on housing and public infrastructure could become uncomfortable if there were not some slackening of the pace.

There are some constraints limiting certain types of development. Water, for example, has become an increasingly scarce resource subject to competing claims — mining, agriculture, fisheries, power production, navigation, recreation, and municipal supply, to name a few — which must be compromised. Tradeoffs between development and protection of environmental amenities also will need to be faced squarely, with full recognition that the two need not be antithetical. In the Pacific Northwest, quality of life may indeed attract the types of business activity that preserve quality while also diversifying the economic base. A broader base, in turn, improves the chances of reasonably steady economic progress.■

POPULATION CHANGE
Western Regional Groupings
1970 to 1980

The Pacific Northwest grouping of states ranked second among western regions in population growth over the decade of the Seventies. The Northwest's 23 percent plus gain fractionally edged out the near 23 percent growth of the West South Central states; all were overshadowed by the 40 percent explosion of Mountain states. California and Hawaii as a group posted a 19 percent gain, while the West North Central states trailed the U.S. average at 5 percent.



Source: U.S. Bureau of the Census

***Alaska, Idaho, Oregon, Montana, and Washington separated out from the Mountain and Pacific regions.**

Washington: Half Of The Action

For Washington State, the decade of the Seventies presented both opportunity and challenge. The state economy entered the decade under the shadow of recession, rallied to move ahead at a record pace through 1979, then slowed abruptly in 1980. Over the entire period, population rose 21 percent to 4.1 million and nonfarm employment climbed 49 percent to 1.6 million. Despite the slow start, Washington clearly was a growth area for the decade as a whole, significantly outdistancing nationwide gains. With respect to the Pacific Northwest, however, Washington travelled in fast company as statewide gains fell just short of those for the region as a whole.

From 1970 through 1975 — a period which included several slow years — nonfarm payroll employment grew at a 2.6 percent compound annual rate, just about in line with average experience in the postwar period. In sharp contrast, the pace from 1975 through 1979 was well over twice the long-term trend rate. During the decade overall, Washington State relied to an increasing extent on pulling in new resources. The manpower base, for example, was expanded partly through hefty increases in labor force participation rates, but also through substantial net immigration. The decade also encompassed years of record investment in construction, relying heavily on funds made available from out-of-state sources.

As with any regional economy, the business climate in Washington has tended to reflect the tone of its exporting sectors; i.e., those serving out-of-state markets. Although there were glaring exceptions, Washington firms during the Seventies for the most part faced strong markets. New products were brought on line, new markets found, and new firms attracted to the area. An additional boost was provided by the return of confidence and release of pent-up demand accumulated during the locally severe 1969-'70 recession.

Decade of Diversification

Natural resources continued to provide support to the Washington economy. Export-oriented activity is significant, and renewability is an important characteristic. From 1970 to 1980, the value of farm production statewide more than tripled to over $3 billion. Generally increasing production levels were attained for such important export crops as wheat and apples. The distribution of agricultural production underwent some changes late in the decade: sugar beet production was phased out and potato production cut back moderately to firm up prices, but production of field corn and hogs increased.

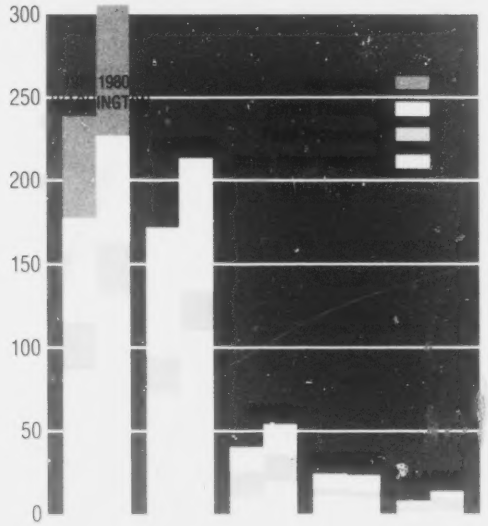
Similar to its foothold in farming, Washington's forest resources contribute importantly to the foundations of the economy. Timber harvested exceeded 7 billion board feet (Scribner) in several years during the decade. Toward the end of the period, roughly one-third of the softwood logs harvested were exported -- largely to Japan — and accounted for some $1 billion in annual sales. Smaller scale contributions to the economy, but significant nonetheless, were made by fisheries and minerals resources.

Manufacturing activities comprise another important element of basic industry. To some degree, manufacturers have found market niches processing natural resource commodities, but the scope of manufacturing extends into widely diversified fields. Resource-based manufacturing — food processing and lumber, plywood, pulp and paper production predominately — followed an uneven path during the Seventies. Periodic confrontations with high interest rates and slack national housing markets repeatedly dampened state lumber and plywood production and employment; the paper industry experienced a lengthly labor dispute; sugar beet processing was suspended. For the period as a whole, however, the resource-based manufacturing group overall appeared to be growing modestly and still accounted for about one-third of manufacturing employment at the end of the decade.

Thousands pour into the Bavarian-style village of Leavenworth, Washington, each fall to join in festivities of the Autumn Leaf Festival. Courtesy of Leavenworth Chamber of Commerce.

MANUFACTURING EMPLOYMENT
Pacific Northwest States
1970 and 1980

During the 1970 to 1980 period, manufacturing employment in the Pacific Northwest rose by 1.3 million employees, or more than 25 percent. Washington posted the largest absolute increase, while Alaska experienced the largest percentage gain. Overall, the Pacific Northwest manufacturing base diversified significantly; nearly three out of every four additional jobs created during the period were in smaller industries rather than the large, traditionally dominant sectors. The remaining job additions were about evenly split between aerospace and resource-based industries.



Source: Individual State Employment Departments

The aerospace industry moved forward strongly from a low of 38,000 employees in late 1971 to about 81,000 at year-end 1980 — a level which comprised about one-fourth of total manufacturing employment. Growth was especially rapid during 1978 and 1979 as development programs on the 757 and 767 new generation aircraft supplemented heavy production commitments on existing models. The Boeing Company became the nation's single largest corporate exporter to foreign countries as the decade drew to a close.

Increasingly important support was provided to the economy by manufacturers of metals, machinery, and other transportation equipment. In general, the product lines are directed at capital investment markets. Ships and boats, heavy trucks, railroad cars, aluminum ingot and products, structural and rolled steel, machinery, equipment, and instruments are all important products. Several major electronics instruments manufacturers have established new plants in Washington in recent years; more are planned. Overall, the group has been singular as a growth area and has contributed importantly to the diversification of the state's industrial base; by the end of the decade, employment in total edged past even the rapidly expanding aerospace sector.

Building on the Basics

Expansion in basic industries in Washington induced complementary gains in the trade, service, and construction industries. The high flyer of all industries was construction: employment doubled during the decade before surrendering to the high interest rates of 1980; housing valued at over $11 billion was started during the Seventies, plus nonresidential building worth over $7 billion. Numerous energy projects have kept nonbuilding work brisk, in addition. Trade and service firms generally fared well also, especially during the rapid growth spurt from 1975 to 1979. Most expansions probably reflected needs of basic industry and a growing population plus increases in the variety of activities which could be provided locally. Other growth factors, however, were at work. Over $20 billion in exports and imports moved through the Washington Customs District in 1980 compared to only $3 billion in 1970, increasing demands upon warehousing and transportation systems. Freight movements in support of petroleum-related activities in Alaska also imposed new demands.

A technician at Criton Corporation's Heath Tecna Precision Structures subsidiary in Kent, Washington, carries a fiber reinforced aircraft component. Courtesy of Criton.

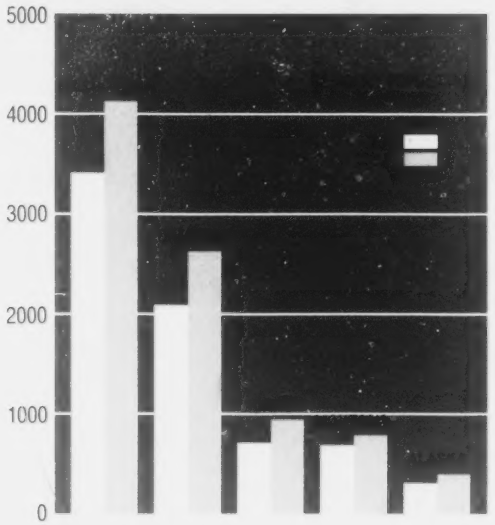
Foundation for the Future

While attempting to preview the future is a risky undertaking at best, at least some of the fundamentals seem to be in place. They suggest that Washington will continue to be a growth area during the Eighties, outpacing both the nation and the state's own postwar experience. It seems unlikely, however, that the spurt of 1975 to 1979 will be repeated or even approached.

The Washington economy diversified during the past decade, especially into fields likely to present favorable market demand. Manufacturers of sophisticated and specialized machinery have performed well in the past and can only benefit from emphasis as a national goal on increased corporate investment in new capacity and updated equipment. Other industries should generally contribute a stable base during coming years. The aerospace sector already has built up to deal with its present backlog of commercial jetliner orders and defense contracts. Added Federal budget emphasis on defense will likely offer new opportunities, and risk of a major downside correction looks minimal at this time. Renewability of forest and farm products argues for a continuation of the Seventies' experience into the Eighties. A moderate comeback in lumber production will follow any improvement in national housing starts; any major uptrend in forest and farm production, however, would depend upon changes such as increased timber cut or more extensive irrigation.

A decade of more moderate, but stable, growth might well be preferable to a repeat of the Seventies with its associated pressures: demand for housing, for example, was intense; and variability of revenue growth complicated management of state and local government. The challenge of the Eighties will be to pair moderate real growth with lower inflation; the opportunity, to further enhance the state's position as a vital element in both national and world economies.■

POPULATION
Pacific Northwest States
1970 and 1980



Population in the Pacific Northwest increased at twice the national rate from 1970 to 1980, with the addition of nearly 1.7 million residents in the five states. The 23 percent rise over the decade represented an acceleration from a 17 percent increase from 1960 to 1970 and contrasted sharply with an 11 percent increase for the U.S. as a whole. Both Alaska and Idaho showed 32 percent gains; Oregon and Washington were up 26 percent and 21 percent, respectively; while Montana posted a 13 percent rise.

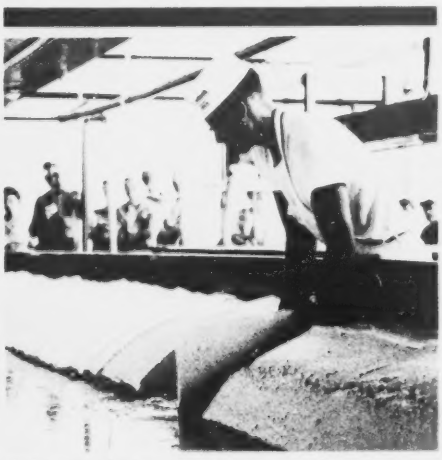
Source: U.S. Bureau of the Census

Oregon: A New Spark

The last decade was a watershed in Oregon's economic development. Historically the state's economy has relied on forest and farm products to support related manufacturing and service industries. Dependent on the nation's demand for such commodities, the local economy managed only a relatively moderate economic performance. In sharp contrast, economic growth accelerated in the Seventies to lead the nation by most statistical yardsticks. Propelled by new, nonresource-oriented industries and a booming international trade business, Oregon ended the decade with a faster growing and more balanced economy.

Trends in population, employment, and income highlight the contrast between the recent economic performance of Oregon and its previous postwar experience. From 1950 to 1970 population and employment in Oregon grew only slightly more than the national average. At the same time, personal income growth trailed the national average. As a result, per capita personal income in Oregon, which had been more than 9 percent *above* the national average in 1950, fell to a level more than 5 percent *below* in 1970.

The surge of the Oregon economy in the Seventies has been spectacular. The resident population of the state soared to 2.6 million in 1980, having grown at a rate more than twice the U.S. average. Similarly impressive were annual growth rates of wage and salary employment, 3.9 percent, and personal income, 12.3 percent. Particularly telling was the recovery of Oregon's per capita personal income to near parity with the national norm — this despite the unusual severity of the 1979-80 recession in Oregon.



While much of the processing operation at Oregon's Tillamook Creamery is mechanized, some manual procedures are still used to create fine cheeses. Courtesy of Tillamook Creamery.

The Traditional Base

By virtue of sheer size, the forest products sector remains dominant among Oregon's basic industries. Employment in forest products (excluding mobile home manufacture) stood at 77,500 in 1980. This comprised 36 percent of the 214,200 manufacturing employees in the state.

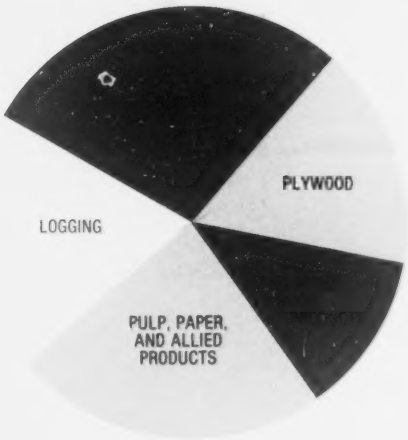
In 1979 Oregon accounted for 20 percent of total U.S. lumber production and led the country in softwood plywood production with 40 percent of the total. Even so, the relative importance of Oregon's wood products industries has declined. Oregon's shares of the nation's lumber and plywood production peaked in 1955 and 1960, respectively, and the subsequent decline in Oregon's share of plywood production has been especially dramatic. Similarly, the share of total manufacturing employment attributable to wood products fell from 34 percent in 1970 to 27 percent in 1980.

Part of the relative decline in wood products is attributable to recession in 1980. As a result of their sensitivity to the housing cycle, wood products industries bore the brunt of the latest economic downturn in Oregon. Still, examination of intervening years suggests that the business cycle is an insufficient explanation. Constraints on supply, reflected in rising stumpage prices, and increased competition from the southeast United States were largely responsible. Paper and allied products comprise the other major forest products industry. While more stable than lumber and plywood, it posted only moderate growth over the decade and employed a smaller fraction of the work force in 1980 than in 1970.

Another major resource-oriented basic industry in Oregon is agriculture. Cash receipts from farm marketings in 1980 were $1.7 billion, more than triple the 1970 value. Beef cattle constituted the most valuable single farm product in 1980 with a value of almost $314 million, but crops in total accounted for 61 percent of all farm receipts. Most impressive growth has come in wheat production. Spurred by growing world demand, Oregon produced over 77 million bushels of wheat in 1980 with a value of $310 million. Since 1970, the wheat harvest has grown at a swift 11 percent annual rate. Other important Oregon crops include hay, barley, seeds, and a variety of fruits and vegetables. Oregon also produces virtually all of the nation's hazel nuts and a third of its sheep.

The food processing industry relies on the agricultural sector to provide its raw materials. Jobs in the industry registered a slight decline over the decade but still accounted for 11 percent of Oregon's manufacturing total in 1980.

FOREST PRODUCTS VALUE ADDED BY MANUFACTURE
Pacific Northwest States
1977



Source: U.S. Department of Commerce

Lumber still leads as the highest-valued forest industry product in the five Pacific Northwest states, but growth in other segments has narrowed that lead. By state, Oregon and Washington are dominant producers, accounting for 47 percent and 37 percent, respectively, of all forest industry value added in 1977; at the other extreme, Alaska accounted for only 2 percent. The importance of each sub-industry varies by state: plywood, for instance, is very important in Oregon and Montana but nonexistent in Alaska. Pulp and paper accounts for half of the value added in Alaska and for a third in Washington, but it represents less than 20 percent in other states of the region.

New Directions

Oregon's traditional resource-based industries continue to loom large in the economy, but overall output and employment growth has been modest. The impetus for the acceleration in Oregon's growth can be found in an influx of new industries and in expanding foreign trade.

New, high-technology electronics concerns, capitalizing on rapidly evolving electronics technology, supply a variety of components and devices with applications in research, industry, medicine, and home entertainment. Employment in such industries climbed at an 8.4 percent annual rate from 1972 to the 1980 level of 28,900. From a base of a few key firms a decade ago, the industry has expanded to become a major source of employment. The Seventies were also characterized by rapid growth in the manufacture of metals, machinery, and transportation equipment. Almost a quarter of 1980 manufacturing jobs were in these industries.

The United States experienced stepped-up international trade during the last decade and Oregon shared in the upsurge. Trade with Pacific Rim countries was especially brisk,with Japan being the United States' second largest trading partner. Exports from the Portland Customs District totalled $3.8 billion in 1980, five times the 1970 level. Imports showed a sevenfold rise over the same period to $2.6 billion. Not surprisingly, exports from the Portland Customs District are principally food and forest products. Wheat comprises nearly half the export total, as most Pacific Northwest wheat moving into export is shipped out through ports on the Columbia River. Softwood logs and lumber add another quarter to export value from the district.

On the import side it appears that the energy crisis has had a favorable impact on port activity. The value of imported passenger autos plus truck bodies and chassis approached half the total value of imports through the Portland Customs District at the decade's close. The other major import item, alumina from Australia, supplies Washington and Oregon aluminum reduction plants.

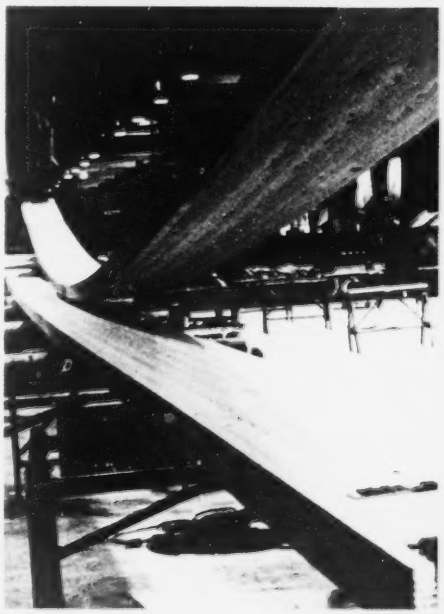
Oregon's nonmanufacturing industries added net new jobs at an annual rate of 4.4 percent over the decade. The strong growth largely reflected expanding local markets stemming from Oregon's rising population and income. The financial services and construction industries expanded to meet the need for investment in housing, plant, and equipment. Employment in finance, insurance, and real estate almost doubled while contract construction jobs were up by more than half.

Though the Oregon economy got off to a slow start in 1981, the longer-run outlook is auspicious. Population, employment, and real income growth should continue to exceed national rates though a less exuberant pace than in the past decade is likely. Changes in the composition of employment should follow the trends established in the Seventies. Within manufacturing, the resource industries will lose ground relative to all manufacturing; while electronics, transportation equipment, metals, and other manufacturing employment will gain. Electronics and high technology firms in particular should contribute to the growth of the Oregon economy in the next ten years. The demand for their products is growing, and they are well established in the area.

By no means will the resource industries suffer eclipse, however. The high quality of Pacific Northwest timber and the rapid growth of the western United States and the Pacific Rim countries will keep demand for Oregon wood products high over the longer term. Timber harvests are falling and labor productivity in converting wood into products is rising, however; so wood products employment will lose further ground to other industries. Among farm products, wheat should fare particularly well in response to growing demand overseas.

Foreign trade through Oregon ports should maintain strong performance through the Eighties. A potential bonanza is western coal, which could be shipped through northwest ports as coal-handling facilities are developed. Tongue Point near Astoria is the leading Oregon contender.

Oregon's future is assuredly bright. Endowed with a rich resource base, good ports, and dynamic manufacturing and trade sectors, the area is poised for another decade of impressive economic performance. Continued diversification of the economic base and growing export orientation will help insulate Oregon from instability in national demand for resource-related products.■



The manufacture of laminated beams at one of Bohemia Inc.'s western Oregon plants exemplifies the variety of wood products produced in the Pacific Northwest. Courtesy of Bohemia

STATISTICAL SUPPLEMENT TO PACIFIC 1 NORTHWEST INDUSTRIES

POPULATION & INCOME / BASIC INDICATORS OF WASHINGTON BUSINESS AND INDUSTRIAL ACTIVITY

All indexes based on 1967 average = 100

YEAR	POPULATION Washington [a] (thousands)	PERSONAL INCOME [2] Washington: Total (millions of dollars)	PERSONAL INCOME [2] Washington: Per Capita (dollars)	CONSTRUCTION ACTIVITY Washington: Total Construction Contracts [3] (millions of dollars)	CONSTRUCTION ACTIVITY Washington: Adjusted Building Index [b]	GROSS BUSINESS INCOME [4] Washington: Total (millions of dollars)	GROSS BUSINESS INCOME [4] Washington: Manufacturing (millions of dollars)	RETAIL SALES Total Taxable Sales Washington: Actual (millions of dollars)	RETAIL SALES Total Taxable Sales Washington: Index	RETAIL SALES Total Taxable Sales Washington: Adjusted Index [e]	YEAR
1935-39 Avg	1,675	959	572	na	17.2	na	na	575.3	7.4	18.7	1935-39 Avg
1940-44 Avg	1,919	2,253	1,149	na	29.2	na	na	1,166.8	15.0	32.1	1940-44 Avg
1945-49 Avg	2,263	3,387	1,497	na	40.7	na	na	2,381.7	30.5	48.7	1945-49 Avg
1950-54 Avg	2,448	4,615	1,885	na	53.8	na	na	3,374.9	43.3	56.8	1950-54 Avg
1955-59 Avg	2,718	5,895	2,169	na	64.0	na	na	4,299.5	55.1	66.5	1955-59 Avg
1960-64 Avg	2,919	7,492	2,567	na	64.2	na	na	5,171.3	66.3	73.1	1960-64 Avg
1965-69 Avg	3,162	10,948	3,462	1,226.5	91.1	29,173.9[c]	9,112.3[c]	7,752.0	99.4	98.4	1965-69 Avg
1970	3,413	13,658	4,002	1,478.2	88.4	31,372.2	10,023.3	9,070.0	116.3	102.0	1970
1971	3,433	14,317	4,170	1,155.5	68.9	33,140.0	10,059.1	9,339.5	119.7	102.9	1971
1972	3,423	15,534	4,538	1,556.6	85.7	36,290.7	10,472.0	10,107.5	129.6	108.3	1972
1973	3,443	17,486	5,079	1,633.2	77.4	44,217.1	13,277.8	11,448.3	146.8	115.2	1973
1974	3,503	19,733	5,633	2,186.8	80.1	52,674.0	15,093.7	12,865.1	164.9	116.5	1974
1975	3,563	22,426	6,294	2,019.3	85.0	58,053.2	15,586.9	14,493.3	185.8	119.3	1975
1976	3,623	25,026	6,908	3,480.2	96.9	65,540.3	17,550.7	16,693.2	214.0	130.1	1976
1977	3,693	27,854	7,542	2,976.2	116.7	73,664.9	19,453.2	19,336.5	247.9	139.6	1977
1978	3,793	32,398	8,542	4,426.8	141.1	88,848.2	23,593.2	22,225.8	285.0	146.3	1978
1979	3,926	37,417	9,531	5,695.6	142.9	106,102.9	28,889.4	23,879.3	306.1	141.5	1979
1980	4,130	42,641	10,325	4,780.0	107.0	116,630.0[d]	32,740.0[d]	24,462.3	313.6	124.4	1980

LABOR FORCE DATA [5] [6]

YEAR	Civilian Labor Force (thousands of workers)	Unemployment (thousands of workers)	Unemployment As Percent of Labor Force	Total Employment (thousands of workers)	Total Wage and Salary Workers [j] (thousands of workers)	Manufacturing Employment [j] (thousands of workers)	Aerospace Employment (thousands of workers)	Forest Products Employment (thousands of workers)	Other Manufacturing Employment (thousands of workers)	Non-Manufacturing Employment [j] (thousands of workers)	YEAR
1935-39 Avg	na	na	na	na	408.5[k]	113.3[k]	3.5[k]	60.0[k]	49.8[k]	295.2[k]	1935-39 Avg
1940-44 Avg	na	na	na	na	634.7	222.4	27.3	70.9	124.2	412.2	1940-44 Avg
1945-49 Avg	937.1[h]	59.4[h]	6.3[h]	864.4[h]	676.7	187.6	19.1	65.8	102.7	489.2	1945-49 Avg
1950-54 Avg	985.9	46.7	4.7	924.3	730.9	192.7	29.5	69.9	93.3	538.2	1950-54 Avg
1955-59 Avg	1,057.3	58.5	5.5	989.7	791.7	215.9	55.8	64.5	95.6	575.8	1955-59 Avg
1960-64 Avg	1,117.9	70.2	6.3	1,047.1	838.7	218.8	62.0	62.3	94.5	619.9	1960-64 Avg
1965-69 Avg	1,303.0[i]	68.3[i]	5.2[i]	1,203.0[i]	1,030.2	266.7	87.3	65.7	113.6	763.5	1965-69 Avg
1970	1,414.0	130.0	9.2	1,284.0	1,080.0	239.4	61.5	62.0	115.9	840.6	1970
1971	1,394.0	141.0	10.1	1,253.0	1,065.2	214.7	40.5	61.5	112.7	850.5	1971
1972	1,425.0	136.0	9.6	1,289.0	1,100.1	224.1	41.1	67.1	115.9	876.0	1972
1973	1,470.0	116.0	7.9	1,354.0	1,152.3	244.2	50.1	69.3	124.8	908.1	1973
1974	1,512.0	108.0	7.2	1,404.0	1,198.0	253.6	54.1	68.5	131.0	945.3	1974
1975	1,538.0	147.0	9.5	1,391.0	1,225.7	244.0	50.4	63.6	130.0	981.7	1975
1976	1,591.0	137.0	8.6	1,454.0	1,283.1	247.4	45.0	68.4	134.0	1,035.7	1976
1977	1,657.0	145.0	8.8	1,512.0	1,367.0	260.0	46.1	71.6	142.3	1,107.0	1977
1978	1,768.0	121.0	6.8	1,647.0	1,485.6	284.7	59.8	69.1	155.8	1,200.9	1978
1979	1,892.0	128.0	6.8	1,764.0	1,581.2	309.6	72.6	73.1	163.9	1,271.6	1979
1980	1,908.0	143.0	7.5	1,765.0	1,606.5	307.4	79.6	67.3	160.5	1,299.1	1980

FOREST PRODUCTS / AGRICULTURAL PRODUCTION — WASHINGTON [13] [14]

YEAR	Lumber Production [11] Washington p (millions of board feet)	Lumber Production [11] Oregon p (millions of board feet)	Pulp [1] Production Washington (thousands of tons)	Plywood [12] Production Northwest q (millions of square feet)	WHEAT (thousands of bushels)	BEEF CATTLE [r] (thousands of pounds)	MILK (millions of pounds)	APPLES (thousands of tons)	HAY (thousands of tons)	POTATOES (thousands of cwt)	BARLEY (thousands of bushels)
1935-39 Avg	4,066	4,026	963	711	48,142	165,143	1,920	662	1,702	4,731	2,356
1940-44 Avg	4,719	6,150	1,407	1,524	54,959	212,868	1,994	645	1,832	4,883	8,646
1945-49 Avg	3,497	6,692	1,503	1,585	68,726	199,991	1,829	716	1,579	6,543	3,680
1950-54 Avg	3,506	8,554	2,107	2,901	76,524	262,380	1,733	575	1,503	6,859	8,392
1955-59 Avg	3,225	8,041	2,587	5,292	67,024	338,125	1,842	582	1,741	10,074	24,975
1960-64 Avg	3,444	7,408	3,094	8,021	69,184	376,508	1,925	553	1,910	11,621	26,090
1965-69 Avg	3,429	7,257	3,741	9,582	100,750	405,212	1,956	673	2,291	23,195	14,230
1970	3,189	6,680	3,848	9,132	97,075	404,578	2,091	697	2,335	33,590	19,458
1971	3,498	7,413	3,308	9,955	113,210	423,225	2,230	600	2,438	30,110	27,840
1972	3,749	7,943	3,635	10,548	123,328	427,420	2,307	697	2,467	31,365	14,190
1973	3,642	8,194	3,674	10,498	89,200	437,030	2,338	930	2,215	35,260	14,235
1974	3,222	7,007	3,583	8,697	122,220	445,340	2,312	903	2,577	41,160	13,950
1975	3,104	6,342	3,127	8,574	145,140	416,780	2,322	1,100	2,391	48,300	21,200
1976	3,661	7,335	3,399	9,310	144,050	428,870	2,428	1,154	2,446	55,800	21,060
1977	4,031	7,509	3,582	10,122	101,305	399,525	2,549	1,042	2,432	50,600	9,450
1978	4,150	7,416	2,903	10,311	128,160	429,180	2,675	1,074	2,638	50,505	23,180
1979	3,841	7,312	3,313	9,656	118,000	348,030	2,817	1,310	2,494	48,450	17,010
1980	3,192	6,099	na	7,512	160,220	491,370	2,942	1,500	2,625	43,935	31,500

FOOTNOTES

a July 1 estimates, except for April 1 counts in decennial census years.

b Index measures residential and nonresidential building construction, adjusted for cost fluctuation, prior to 1961 based on valuation of building permits for 27 cities and 3 counties of the state, 1962 to present from F.W. Dodge cost adjustment is the American Appraisal Company index.

c 1968-69 average.

d Estimated by Economic Research Department, S-FNB.

e Adjusted for price fluctuations, divided by Seattle consumer price index.

f U.S. average.

g Seattle annual average.

h 1947-49 average.

i Series not comparable prior to 1967. Average reflects 1967-69 series based on place of residence.

j Originally published data adjusted to reflect Bureau of Labor Statistics benchmark revisions for the years 1939 through 1957; data also adjusted insofar as possible to reflect changes resulting from reclassification of industries, but no adjustment made for January 1971 shift of 1,900 Boeing Computer Services workers from manufacturing to nonmanufacturing.

k 1938-39 average.

l Figures commencing with 1959 exclude Montana pack, amounting to less than 1 percent of the Pacific Northwest totals.

m Figures prior to 1948 adjusted to new basis.

n Starting in 1963, data include production in Idaho mainly potato products.

na Not available.

o Less than one thousand.

p Figures commencing with 1960 exclude small amounts of hardwoods produced in Inland Region.

q Softwood plywood, Washington and Oregon; includes small amounts produced in Montana and Idaho from 1952 through 1961.

r Includes calves.

s Includes broilers.

t Excludes value of crops grown but not harvested; derived from tonnage produced and season average price for each product.

u Cash income from marketings; excludes government payments, value of produce consumed on farms, and gross rental value of farm dwellings.

BASIC INDICATORS OF WASHINGTON BUSINESS AND INDUSTRIAL ACTIVITY

All indexes based on 1967 average = 100

FOREIGN TRADE[1] Washington Customs District			PRICE INDEXES ADJUSTMENT FACTORS[5,6]			ELECTRIC ENERGY PRODUCTION[7]	YEAR
Exports	Imports (millions of dollars)	Total Exports and Imports	Producer Prices f	Consumer Prices f	Construction Costs g	millions of kwh	
70.3	34.9	105.2	41.6	41.9	20.3	3,376	1935-39 Avg
187.1	69.4	256.5	48.3	47.9	26.9	6,826	1940-44 Avg
183.5	108.4	291.9	71.0	64.6	46.6	11,783	1945-49 Avg
233.1	215.3	448.4	87.3	78.0	63.5	20,541	1950-54 Avg
391.9	342.7	734.6	92.2	84.0	73.0	27,268	1955-59 Avg
559.9	451.1	1,011.0	94.7	90.7	83.9	40,076	1960-64 Avg
1,123.4	797.9	1,921.3	101.1	101.1	102.6	60,429	1965-69 Avg
1,904.8	1,269.1	3,173.9	110.4	116.3	117.3	71,699	1970
2,526.1	1,567.3	4,093.4	113.9	121.3	124.6	73,979	1971
2,438.9	2,005.7	4,444.6	119.1	125.3	135.4	78,656	1972
3,445.5	2,453.0	5,898.5	134.7	133.1	156.4	78,566	1973
4,279.9	4,075.8	8,355.7	160.1	147.7	169.1	90,404	1974
4,199.0	3,972.4	8,171.4	174.9	161.2	183.1	93,560	1975
4,931.2	5,006.1	9,937.3	183.0	170.5	203.2	102,820	1976
4,762.1	5,783.7	10,545.8	194.2	181.5	219.9	78,931	1977
6,399.5	6,678.2	13,077.7	209.3	195.4	247.5	99,139	1978
9,631.5	7,967.7	17,599.2	235.6	217.4	274.5	90,834	1979
12,006.2	9,177.0	21,183.2	268.6	246.8	286.8	na	1980

FOOD PRODUCTS

CANNED FOODS[9] Pacific Northwest i		FROZEN FOODS[9] Washington - Oregon		CANNED SALMON[10]			WHEAT FLOUR PRODUCTION[1]	YEAR
Fruits and Berries m	Vegetables	Fruits and Berries	Vegetables n	Alaska	Washington	Oregon	Washington	
thousands of standard cases		millions of pounds		thousands of cases			thousands of sacks	
6,542	5,558	53.2	17.7	6,459	340	339	9,289	1935-39 Avg
7,039	10,567	95.6	58.5	5,460	262	277	10,781	1940-44 Avg
7,378	13,102	134.5	138.4	4,203	643	235	12,006	1945-49 Avg
7,149	16,625	132.5	252.3	3,304	828	142	9,364	1950-54 Avg
7,699	19,741	165.6	386.6	2,519	587	128	9,628	1955-59 Avg
7,017	21,085	180.1	791.4	3,091	310	75	10,058	1960-64 Avg
7,645	26,433	184.4	1,936.5	2,834	270	88	7,852	1965-69 Avg
7,455	23,417	181.2	2,536.3	3,565	189	58	7,808	1970
8,422	24,749	181.6	2,624.5	2,899	463	151	7,227	1971
6,437	23,393	135.5	2,764.4	1,705	190	35	7,609	1972
8,859	27,023	119.3	3,096.9	1,209	305	32	6,667	1973
9,884	32,035	110.4	3,431.0	1,343	578	56	6,781	1974
8,456	27,221	130.7	3,422.2	1,384	162	9	5,909	1975
9,256	23,171	176.8	3,766.6	2,470	136	6	6,833	1976
8,875	19,397	158.5	3,979.1	2,594	231	2	7,067	1977
7,786	24,502	111.6	4,214.5	2,921	11	2	7,413	1978
9,727	29,509	115.7	4,285.1	3,081	144	o	7,740	1979
9,716	26,730	na	na	4,175	125	o	7,737	1980

AGRICULTURAL PRODUCTION — WASHINGTON[13,14]

HOPS	PEARS	EGGS	CHICKENS[s]	HOGS	FARM INCOME		YEAR
					VALUE OF PRODUCTION	CASH RECEIPTS[u]	
thousands of pounds	thousands of tons	millions of eggs	thousands of pounds	thousands of pounds	millions of dollars		
9,172	161	833	23,327	68,942	na	145.7	1935-39 Avg
13,981	170	873	32,036	96,987	355.6	306.7	1940-44 Avg
20,830	183	740	42,422	58,208	562.1	519.2	1945-49 Avg
24,493	131	764	56,141	41,989	610.5	523.3	1950-54 Avg
25,315	120	937	59,972	45,634	586.7	528.9	1955-59 Avg
27,833	114	1,030	75,148	44,135	648.3	595.4	1960-64 Avg
32,483	128	1,048	96,924	29,708	803.9	751.3	1965-69 Avg
31,416	155	1,079	97,493	27,543	892.4	794.9	1970
32,697	165	1,021	73,754	27,440	954.6	818.2	1971
34,752	153	1,033	78,007	25,278	1,177.7	1,070.4	1972
36,668	187	1,058	82,202	23,030	1,823.2	1,600.4	1973
38,979	213	1,085	84,305	23,674	2,005.7	1,792.5	1974
37,701	219	1,084	74,927	18,790	1,993.5	1,828.1	1975
41,160	235	1,058	78,719	21,454	1,931.9	1,836.6	1976
37,904	224	1,063	86,163	23,183	1,886.0	1,757.2	1977
40,044	246	1,121	88,470	20,597	2,254.5	2,181.1	1978
40,140	246	1,172	105,904	28,933	2,562.7	2,401.0	1979
55,952	250	1,295	105,913	44,598	3,060.9	2,613.2	1980

SOURCES

1. Bureau of the Census, U.S. Department of Commerce
2. Bureau of Economic Analysis, U.S. Department of Commerce
3. F.W. Dodge Division, McGraw-Hill Information Systems Co.
4. Department of Revenue, State of Washington
5. Bureau of Labor Statistics, U.S. Department of Labor
6. The American Appraisal Company
7. U.S. Department of Energy
8. Employment Security Department, State of Washington
9. Northwest Food Processors Association
10. Pacific Packers Report
11. Western Wood Products Association
12. American Plywood Association
13. Washington Crop and Livestock Reporting Service
14. Economic Research Service, U.S. Department of Agriculture

Washington Manufacturing Gross Income[1]

Twelve Months Ending September 30, 1980

	Millions of Dollars	Percent of Total
FOOD PRODUCTS	$ 4,471.8	13.9
Meat products	997.9	3.1
Canning and preserving	930.7	2.9
Beverages	740.3	2.3
Dairy products	566.3	1.8
Grain mill products	331.9	1.0
Bakery products	217.6	0.7
Other	687.1	2.1
FOREST PRODUCTS	$ 6,765.0	21.2
Lumber and wood products	4,094.4	12.8
Paper and allied products	2,550.8	8.0
Furniture and fixtures	119.8	0.4
AEROSPACE	$ 9,166.3	28.6
OTHER	$11,610.7	36.3
Primary metal industries	2,661.6	8.3
Machinery	1,363.3	4.2
Chemicals and allied products	863.9	2.7
Printing and publishing	823.1	2.6
Fabricated metals products	784.8	2.5
Shipbuilding	755.4	2.3
Stone, clay, glass, and concrete products	663.2	2.1
Apparel and textiles	505.2	1.6
Miscellaneous	3,190.2	10.0
TOTAL	$32,013.8	100.0

Value of Farm Products[2] — 1980

State of Washington

	Millions of Dollars	Percent of Total
FIELD CROPS	$ 1,488.8	48.6
Wheat	640.9	20.9
Hay	241.5	7.9
Potatoes	184.5	6.0
Barley	92.9	3.0
Hops	85.6	2.8
Seed Crops	39.6	1.3
Dry Field Peas	17.8	0.6
Other	186.0	6.1
LIVESTOCK AND DAIRY	$ 883.1	28.9
Cattle and calves	383.5	12.5
Milk	374.2	12.2
Eggs	53.0	1.8
Chickens and broilers	27.7	0.9
Hogs	18.7	0.6
Other	26.0	0.9
FRUITS, NUTS, & BERRIES	$ 428.7	14.0
Apples	288.0	9.4
Pears	56.5	1.8
Berries	16.6	0.6
Other	67.6	2.2
VEGETABLES	$ 104.3	3.4
SPECIALTY	$ 156.0	5.1
TOTAL	$ 3,060.0	100.0

SOURCES

1. Washington State Department of Revenue
2. Washington Crop and Livestock Reporting Service

regarding the figures:

All data in the statistical supplement are drawn from standard sources, as indicated, with a few exceptions where we have supplied our own estimate to bring a series up to date.

STATISTICAL SUPPLEMENT 1

Highlights of 1980

Employment

Slumping national markets and high interest rates brought the Washington economy to a temporary halt in 1980 after four years of rapid growth. Nonfarm payroll employment, adjusted for regular seasonal fluctuations, peaked in February at a record high 1.625 million workers. Subsequent employment declines ended by October, and moderate gains began toward year-end and extended into early 1981. Courtesy of the high starting level, 1980 employment on an annual average basis was up 1.6 percent for the year.

Income and Prices

Personal income in Washington rose 14.0 percent in 1980 to $42.6 billion. The pace of income growth slackened moderately relative to gains in the preceding two years. As was true nationwide, an increased proportion of income gains represented inflation rather than real growth, further underscoring the need for a firm national commitment to checking inflation and inflation expectations.

Aerospace

The Boeing Company reported total sales valued at $9.4 billion during 1980. Backlog climbed to $20.0 billion at year-end 1980 compared to $18.0 billion one year earlier. New orders for commercial aircraft totalled $10.3 billion, including substantial additional orders for the new generation 757 and 767 aircraft. Military business was spurred by capture of the prime contractor award for the Air Launched Cruise Missile program. Aerospace employment in Washington rose by about 3,500 during 1980, leveling off at about 81,000 toward year-end.

Forest Products

Record high mortgage rates and the resultant decline in national housing starts to 1.3 million units in 1980 negatively impacted Washington's forest products industries. Employment in the pulp and paper sector held steady at a high level averaging 17,500 workers; the lumber and plywood segments, however, pared off 7,500 workers to an annual average of 46,400 — with most of the nonseasonal reductions occurring early in the year. Concurrently, regional lumber production dropped nearly 20 percent in 1980 after essentially holding its own in 1979.

Agriculture and Food Processing

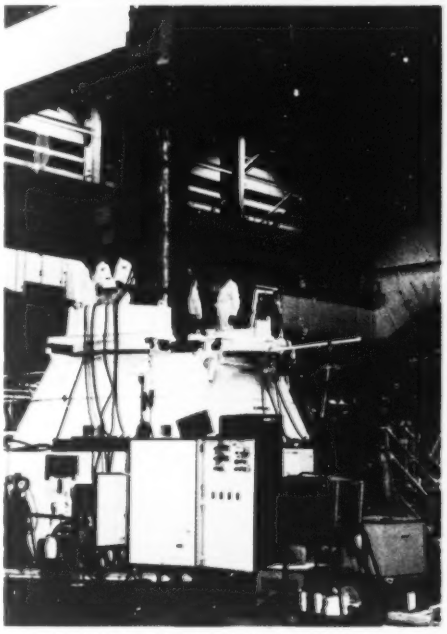
Washington State's farm value of production broke the $3 billion mark for the first time in 1980, rising nearly 20 percent above the prior-year mark, which had also been a record. Seed crops, livestock/livestock products, and field crops were especially strong. Potatoes and hay, benefitting from sharply higher prices, and wheat, boosted by a greater-than-one-third increase in production, contributed importantly to higher farm production value. Food processing employment, seasonally adjusted, declined moderately during 1980 and was down 3.6 percent to 31,700 workers on average for the year as a whole.

Other Basic Industry

After posting sharp increases during the past several years, employment in diversified manufacturing succumbed to weaker markets in 1980. On an annual average basis, 1980 employment declined by 2,100 workers to 132,200. The vast majority of nonseasonal employment reductions occurred in the opening months of the year. At year-end, most industry groups reported lower employment than twelve months earlier. Largest reductions were in private shipbuilding and repair, fabricated metals, and apparel; bucking the downtrend were electrical equipment and nonferrous metals. When markets strengthen, a prompt rebound in diversified manufacturing may be expected.

Construction

The value of new construction contracts in Washington totalled $4.8 billion in 1980, off 16 percent from the record $5.7 billion in 1979. Heavy construction stayed about constant at nearly $2 billion, buoyed in both years by permits for nuclear power plants. Residential construction, at $1.7 billion, was off 27 percent in value and 36 percent in unit terms. The 33,000 units started represented the slowest pace since 1974. Nonresidential building totalled $1.3 billion, off 15 percent; square footage, however, at nearly 30 million square feet, remained sizable compared to every year save 1979. ■



At the Idaho National Engineering Laboratory, testing is underway to help determine safe operating conditions for Liquid Metal Fast Breeder Reactors. Courtesy of U.S. Department of Energy

Hecla Mining Company's Lucky Friday Mine in Idaho brings out the nation's most valuable ore with extraordinarily rich silver lead content. Courtesy of Hecla

Idaho: The Fast Track

The Idaho economy in the Seventies, if anything, has to be characterized as "supercharged". Additions to the state's wage and salary employment were on the order of 60 percent over the ten-year span, a rate running almost twice that of the Sixties. Basic manufacturing gained by well over a third in employment terms, and total population increased at a rate nearly three times the national average. In contrast, Idaho had lagged the nation in population growth by a small but ever widening margin throughout the postwar period up until 1970-80. The cumulative 32 percent population increase for the latest decade ranked Idaho sixth in growth among all the states in the nation according to the Census Bureau, and the city of Boise came in twelfth among all metropolitan areas with a 54 percent increase in residents. (The Tri-Cities area in Washington State was close behind, ranking thirteenth.) With the exception of a couple of years in the early Seventies, Idaho's unemployment rate consistently was below that of the nation as a whole, giving further evidence of a healthier-than-national general economic performance over the past ten years.

The expansion of the Seventies brought not only greater size but some basic structural change to the Idaho economy. Agriculture and forest products, traditionally the number one and number two industries of the state, respectively, retained those positions, and mineral production expanded. The big news, however, was a virtual explosion of clean, relatively footloose, diversified manufacturing drawn to the area by quality of life considerations. Most important additions have been in machinery manufacturing and electronics, in which employment doubled from 1975 to 1980. For the decade as a whole, employment in the combined category jumped from a little over 1,000 workers in 1970 to nearly 7,000 on average last year. Several large, national companies have established manufacturing facilities within the state.

In addition, there has been substantial growth in fabricated metals (specifically structural supports) and expansion also in chemical processing, mobile homes/recreational vehicles, and new types of wood-based products. Manufacturing apart from forest products and food processing has gone from roughly 27 percent of all industry in 1970 to nearly 40 percent last year. The result has been the emergence of a far more varied economic base than existed ten years ago and, accordingly, an economy subject to a differing set of market stimuli.

Field and Forest

Underlaying the Idaho economy is the very big, very healthy, very prosperous farm sector with cash receipts in 1980 approaching $2 billion. The figure in 1970 was $666 million. Of course a good portion of the dollar rise represents higher prices over the past ten years for key crops and livestock, but expansion over the decade brought increased unit output as well. Additional irrigated acreage went into sugar beets, vegetables, and field crops, but the predominant emphasis was on maintaining market share of Idaho's principal agricultural product — potatoes. Frozen potato-product plants coming on line since 1970 figured importantly in holding up overall food processing employment statewide.

Cyclical downturns of the national housing market at the beginning, midpoint, and end of the last decade impacted the state's lumber and wood products industry significantly. Idaho typically ranks fourth in the nation in lumber production. Last year lumber employment constituted 29 percent of total manufacturing employment, down from a third at a peak two years earlier. Some diversification into pulp and paper provides a small offset to downturns in wood products; more important as a balancing element, however, has been the broadening of the state's industrial base.

Ever since silver ore was struck in the rich Coeur d'Alene district shortly after the turn of the century, Idaho has been on the map as a major mining center. Currently there are 19 major operating companies and Idaho holds the distinction of being one of the nation's major producers of industrial minerals. Six new mining projects were launched in 1979-80 alone, and federal government approval was granted at the end of last year for the largest mining project in Idaho's history — a $350 million open-pit molybdenum mine with output scheduled to peak in 1984 at 20 million pounds a year. Idaho is the only U.S. producer of cobalt, and when the molybdenum venture gets into full production, the state will be the major producer of strategic minerals in the U.S. The state ranks number one in silver, with the 1980 output of 18 million ounces valued at $314 million representing half the state's total value of mineral production last year; first in antimony and vanadium; second in lead, phosphate, and elemental phosphorus; third in zinc; and fifth in gold. Buoyant metal prices during the late Seventies greatly enhanced the value of Idaho's mining sector and, in turn, spawned sizable new mining activity and upgrading.

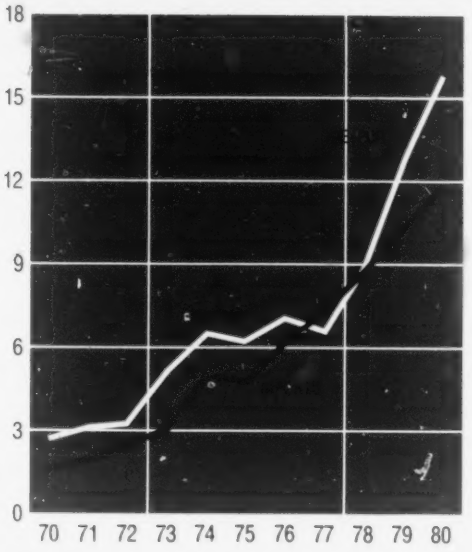
To the Sea and To the Future

Being landlocked, Idaho historically did not share in the waterborne, Pacific Rim commerce so important to Washington, Oregon, and Alaska. Not until 1975. At that time slackwater navigation was finally opened, through a series of multipurpose locks and dams along the lower Snake, to Lewiston, some 464 miles inland from the Pacific Ocean. Construction of port facilities and storage terminals began in the early Seventies. Today, the port handles shipments of petroleum, timber, grain and other agricultural products, and manufactured goods originating both inside and outside the region. The impact upon inland bulk cargo movements has been significant.

These are only highlights of the developments of the past decade. Idaho's prospects for the long haul look good: a rich natural physical beauty which attracts business locations as well as tourists, a strong stake in agriculture, extensive mineral resources, and a quality of life which attracts and retains a highly productive labor force. In all likelihood, Idaho is positioned to capture an even greater portion of overall Pacific Northwest growth in the Eighties. ■

EXPORTS AND IMPORTS
Seattle and Portland Customs Districts
1970-1980

The value of imports and exports moving through the Seattle and Portland Customs Districts topped $27 billion in 1980, over six times the value handled in 1970. Exports grew steadily until 1974 when the OPEC I price shock and coincident unstable economy initiated a seesaw effect. Since 1977, however, when drought cut harvests and farm exports from the area, shipments abroad once again have risen dramatically. Rising import value reflects in part the steep climb in prices of imported oil and gas.



Source: U.S. Department of Commerce

Montana: Big Sky Country

Economic activities in Montana vary among geographic areas of the state. The eastern two-thirds is really part of the Great Plains, characterized by dryland grain farming, some irrigated strips, rangeland, and large ranching operations — all punctuated by oil and natural gas wells and coal mines. The western third spans the Rocky Mountains. This is an area of spectacular scenery and outdoor recreation, timber harvesting and wood processing, hard-rock mining and mineral processing, irrigated farms, and mountain ranches. Largely resource oriented, Montana provides a diverse menu of raw materials for national and world markets. To date, the manufacture of products for final consumption has played a minor role.

Economic performance was favorable during the Seventies. Personal income increased 180 percent; while population grew 13 percent, reversing the out-migration trend of the two previous decades. Total employment rose at a 3 percent annual rate, due mainly to growth in trade and services areas; the aggregate figure, however, masked a slide in several basic industries. During the Seventies, substantive job losses occurred in agriculture, metal mining, and primary metals processing; other basic sectors expanded, however, most notably coal, oil and gas, wood products, and federal government employment in natural resource management. Basic employment levels were down in 1980, but largely due to recession-induced declines in wood products and to a copper strike. In secondary industries, the growth rate of employment has exceeded the national average pace since 1970. Still, service and trade-related jobs as a percent of total employment are below the U.S. norm, a common trait of largely rural states.

Miner uses automatic drill at Atlantic Richfield's Anaconda Copper Company operations in Butte, Montana. Courtesy of Anaconda.

Resource Review

Agriculture, the largest basic industry, changed greatly in the Seventies. It now has larger and fewer farms, a smaller work force, and greater capital inputs. Output trends are somewhat difficult to interpret as a result of climatic and market variations. Cattle and calf production is very price-sensitive; and, although herds are building in response to favorable prices, production is still below early-Seventies levels. Grain production, after surging in 1975-76 as a result of unusually high moisture, was depressed in 1977, 1979, and again in 1980 due to drought. Despite the variability of output year by year, cash receipts from farm marketings increased 95 percent over the decade. Current areas of concern include transportation systems, rapidly increasing input prices, a pressing need for improved irrigation efficiency, and the strength of world demand.

Mining, the state's oldest industrial sector, remains the most prominent. In the late Seventies, depressed copper prices due to intense international competition forced the closure of a major copper smelting operation. While present mining activity is extremely concentrated in the Butte area, a new underground mine near Troy may begin producing in the early Eighties, and other mineral-rich areas have been identified. Output is off about 30 percent from the early Seventies, but most national forecasts call for increasing copper production over the next 10-15 years. Nevertheless, the short-term outlook is not encouraging in view of surplus stocks and excess capacity. Montana also houses an aluminum plant at Columbia Falls with 1,300 workers.

Montana's coal industry faces the twin challenges of helping the nation reduce its dependence on insecure imported oil and of maintaining local environmental quality. Given favorable prices, some analysts predict that by 1990 coal could account for 20-25 percent of total world energy supplies. The impact of this on Montana is very difficult to quantify. Demand for low-sulfur coal, abundant in the state, is expected to increase over the present decade. Current requirements for restoring strip-mined land add to mining costs, however; and slurry transportation, although economically feasible, may be constrained by limitations on use of scarce water for this purpose. Finally, increased exports to Pacific Rim nations, which might boost demand for coal by some 10 million tons per year, must await major infrastructure investments. The outlook for the Eighties, therefore, is for rising demand for increased output with concurrent employment and income gains, but satisfaction of the demand remains subject to many contingencies.

Extensive exploration, new discoveries, and anticipation of a more supportive political climate have generated an optimistic near-term outlook for oil and gas exploration in Montana. Twenty new gas fields were opened in 1980, and drilling activity intensified, eventually resulting in a shortage of rigs! Exploratory drilling should continue to

FARM VALUE OF PRODUCTION
Pacific Northwest States
1980

Thanks to irrigation, agriculture is very big business throughout the Pacific Northwest. Field crops — led by wheat, potatoes, and hay — accounted for fully one-half of the value of 1980's farm production. Livestock and related products provided roughly 36 percent, with fruits and vegetables for both fresh market and processing adding another 8 percent. Other items, including such specialty crops as seeds and flowering bulbs, rounded out the agricultural picture.

Source: U.S. Department of Agriculture

increase during the Eighties. How much will depend on the success of the search, particularly in northeastern Montana (including the Williston Basin where the recent success ratio is reported as 40 percent or better) and in the Overthrust Belt. By mid-decade, increased oil production, together with probable construction of the Northern Tier pipeline, should provide adequate oil for the state's refineries and may result in some expansion of existing refinery capacity.

Much of western Montana is heavily dependent upon the forest products industry. The sector accounted for 37 percent of manufacturing employment in 1980, up from 34 percent in 1970. More diversified and concentrated since 1970, there is now greater emphasis on plywood, particleboard, fiberboard , and pulp and paper, and less on lumber production. Harvests from federal lands fell sharply during the Seventies, while cutting on private timberlands increased rapidly and probably reached a peak. Thus the expansion of the last decade almost certainly cannot be repeated. The long-run future of the forest industry depends on the availability of timber as well as on construction and industrial demand for wood. Increased use of forest residues — material now being left in the forest — may prove to be a way of maintaining the industry, or even permitting modest growth. If the forest industry is as important to western Montana in 1990 as it is today, there will likely be fewer small sawmills, more concentration of ownership, and more plants utilizing forest residues — perhaps another board producer, pulp mill, or even a wood fuel plant. Pulp and paper production capacity is even now increasing due to the expansion of a major firm. For the total industry, though, the outlook in the Eighties is for limited growth in employment and earnings.

On the Horizon

Bringing together production and export markets is the railroad industry. Until 1977, rail employment had been on the decline since World War II; the rebound was due largely to increased coal traffic, shipped most recently by unit train. The past eighteen months, however, witnessed two significant changes in rail activity — the losses of both the Milwaukee Road and the southern Amtrak route. Rail employment is eventually expected to revive moderately, due to pressures for increases in commodity exports.

Another industry destined for growth in the Eighties is heavy construction. Scheduled for completion in 1984, construction of additional coal-fired electric power units at Colstrip will provide a big boost. At the peak of activity in 1982, some 2,000 workers will be employed, 40 to 50 percent as many as have been employed in recent years overall in heavy construction. Highway construction should also be a positive factor during the early part of the decade, and the Northern Tier pipeline will employ a large number of construction workers for a short time.

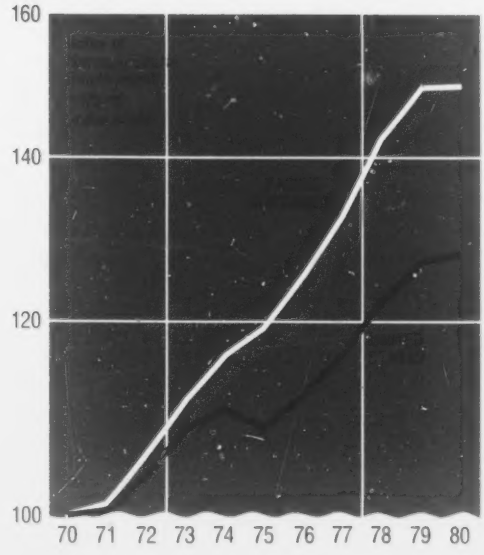
Tourism also deserves mention. Made up of parts of various retail trade and service activities, it is virtually impossible to measure employment or earnings generated solely by tourism. It is known that the number of tourists increased during most of the Seventies; but the number of visitors was down sharply in 1980 as vacationers looked for recreation spots closer to home, due mainly to higher gas prices. Tourist businesses in areas served by public transportation are expected to fare best in the Eighties.

To summarize, the industries which seem to hold the most promise for the Eighties in terms of increased real earnings are the mineral fuel industries, including coal, oil, and gas; heavy construction; railroads; and agriculture. The future of the forest industries hinges on the availability of timber and the ability to use more forest residues. The copper industry is not likely to be a growth industry, and tourism faces an uncertain future. Overall, however, anticipated economic growth should suffice to enable residents to find jobs within the state and support some immigration, leading to population expansion about comparable to that of the Seventies.■

Burlington Northern unit trains efficiently transport Montana coal and Midwest grain to West Coast export points. Courtesy of Burlington Northern.

EMPLOYMENT
Pacific Northwest and United States 1970-1980

Pacific Northwest nonfarm employment rose a very strong 49 percent from 1970 through 1980, compared to a nationwide gain of 28 percent. Regional growth was only checked by the 1974-75 recession; whereas U.S. employment declined sharply. The region continued to outpace the national trend through 1979; last year, however, regional sensitivity to high interest rates flattened area employment while a small gain was registered nationwide.



Source: U.S. Bureau of Labor Statistics

Alaska: Black Gold And Other Riches

Unlike other states of the Pacific Northwest, Alaska still smacks of the frontier — sparsely populated, largely undeveloped economically, and primarily dependent on use of natural resources. Significant events in the Seventies, particularly construction of the Alaska pipeline to transport oil from the North Slope precipitated a series of dramatic social and economic changes throughout the state. The growth path between 1970 and 1980 was characterized by bursts of energy and periods of retrenchment. Alaska's business cycles, however, ran counter to the national pattern. Following the discovery of oil on the North Slope in 1968, six years elapsed before the trans-Alaska pipeline received a green light. Finally the nation turned to Alaska as one key to solving the country's energy predicament. In 1974 and 1975, while the nation was in a tailspin prompted by the oil embargo of late 1973 and subsequent quadrupling of imported oil prices, the Alaskan economy boomed. Conversely, while the late Seventies were years of expansion for the nation and the rest of the Pacific Northwest, the Alaskan economy drifted following completion of the pipeline. Finally, in 1980, while the U.S. as a whole went through recession, activity in the 49th state was once again picking up.

The one-billionth barrel of crude oil from Prudhoe Bay was shipped to market via the Alaska pipeline in 1980, and scheduling of oil lease sales for the next few years was established. In addition, the Alaska lands bill was signed into law late in the year, providing a framework within which future development can take place. The federal legislation set aside 104 million acres of land into various types of conservation units. Alaska Natives were awarded 44 million acres of land by the law; and, it also allows exploration for oil and gas in the Arctic National Wildlife Range, under stringent Congressional controls. The state income tax was repealed and rebates on 1979 taxes were authorized.

Winds of Change

In 1970, Alaska's population was just under 303,600, with nearly 57 percent of its residents located in the Anchorage and Fairbanks Boroughs. With the construction of the pipeline during the Seventies, growth took place in population, employment, and housing in smaller communities such as Tok, Delta, and Valdez; Anchorage and Fairbanks, however, remained the leading population centers for Alaska's 400,500 residents in 1980, claiming approximately 43 percent and 13 percent of the population, respectively. The population of the state steadily increased between 1970 and 1978, peaking at an estimated 411,000 residents; but, following completion of the pipeline, it then declined in the subsequent two years. Over the full decade, a 32 percent gain was recorded, almost triple the national increase.

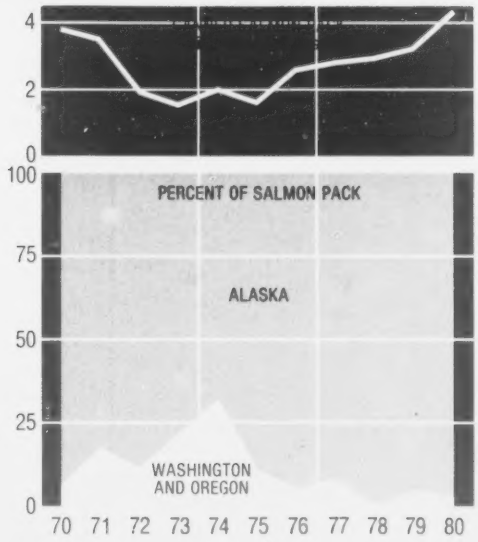
State personal income totalled about $4.97 billion in 1980, three-and-a-half times the 1970 level. Per capita personal income in Alaska has generally been running 20 to 30 percent higher than the average for the U.S., except in the pipeline construction years of 1975 and 1976 when premium wages inflated the margin to 60 percent above. Living costs in Alaska, however, have also been greater than the U.S. average by close to 50 percent for each of the years between 1970 and 1980, largely cancelling out the income advantages.

While nonagricultural wage and salary employment grew by 84 percent to 170,100 in 1980, it actually peaked at a slightly higher level in 1976 coincident with the midpoint of construction work on the pipeline, slid moderately through the next two years, then posted gains in 1979 and 1980 that recovered much of the earlier loss.

The structure of the Alaskan economy has undergone much change since 1970. Private supporting economic activities have gained a greater share of employment. Services employment, in particular, rose very rapidly in relative terms, with financial services and trade also increasing in importance. Government, still the largest employing sector in Alaska, grew absolutely but shrank in relative terms from 38 percent of nonfarm employment in 1970 to 32 percent in 1980. The number of employees on the federal payroll stayed about level over the decade, but state government

Travelers to Alaska can plan tours including the adventure of a dog-sled ride across some of the vast lands of the frozen north. Courtesy of Alaska Airlines.

CANNED SALMON PACK
Pacific Northwest States
1970-1980



Alaska, Washington, and Oregon together account for the entire canned salmon pack of the United States. Between 1970 and 1980, Alaska steadily gained a greater share of the pack and ended the period accounting for 97.1 percent of the pack. Pink salmon is consistently the most important species taken in Alaska and Washington; while Chinook accounts for the largest share of the Oregon pack.

Source: Pacific Packers Report

rose moderately and local government payrolls exploded, thanks in part to distributions of state oil revenues. Mining, a basic economic activity, captured almost 4 percent of total jobs last year, a bigger share than ten years earlier. Most recent mining activity in the state has been in oil and gas extraction endeavors, but hard rock mineral exploration continues in high gear, with promising results.

Manufacturing and construction both gained workers over the decade but accounted for lesser shares of employment when 1980 came to a close. On average for 1980, construction accounted for 6 percent of nonfarm employment, and manufacturing, 8 percent — mostly in seafood processing and wood products. While 1979 and 1980 were years of some growth in the Alaskan economy, manufacturing, particularly wood products, and construction were not yet participating fully in the expansion.

Although the Alaskan economy still is heavily dependent on natural resources (fish, timber, minerals, and petroleum and gas), evidence suggests that the state is poised for a transition to more diversified activity with greater processing of crude materials and more indigenous support activities for its primary economic endeavors. Tourism too has been growing by leaps in recent years — the number of visitors was up 10 percent in 1980 from 1979 — providing the base for steady expansion of visitor-related facilities and services.

A Glimpse of the Future

The current year will continue economic recovery; it is expected to show employment growth of 3 percent with all industries advancing except forest products and fishing. Mining, petroleum development, tourism, construction, and state and local government are expected to turn in strong performances. During the year $1.6 billion will be invested in Prudhoe Bay field development; the Dow-Shell natural gas liquids feasibility study will be completed; and, headway will continue to be made on the natural gas pipeline project. Massive public and private expenditures have been committed, injecting the construction industry with new energy. Tourism is expected to show an increase of 10 to 15 percent over the year. On a less joyful note, the fishing industry will face reduced harvests and forest products will be restrained by soft Japanese markets and high interest rates.

Extending the horizon, 1982 could be a period of reacceleration if several large energy products proceed on schedule; 1983 will also be a period of strengthening. Healthy expansion, indeed, is expected to continue through the Eighties. Qualitative changes will be witnessed as well over the next ten years as the state progresses from extractor of raw materials to a processor and convertor. Catalysts will be the further development of the petrochemical industry and both private and public investment in the state. Volatility of the economy will still be present, but as the diversification process continues it will give way to greater stability and predictability.

Major impetus to the transition will come from investment in the infrastructure of the state. The Alaskan government has already begun planning for a well-integrated statewide transportation system and other projects. Alaskan Native corporations, established as "for profit" organizations in 1971, will continue to foster investment in the state. In addition, the shift of extensive Alaska lands from federal to state and local ownership is an encouraging sign for the future, as Alaskans will be able to speed up implementation of development plans for mineral, hunting, and fishing areas.

The future for Alaska looks encouraging, and economic ties that have united Alaska with the rest of the Pacific Northwest will continue. Thus, increased economic activity in the 49th state will offer new opportunities for suppliers of goods and services throughout the region.■

The glow of a solitary bright spot on the horizon can be seen where the North Pole Refining Company of Alaska produces jet and diesel fuel. Courtesy of North Pole Refining